

Ms 5103/17. Eötvös Loránd nevére jászai.  
Malguesse [?]

1. kötet. hor.

M. TUD. AKADÉMIA  
KÖZMŰVEL. NOVELA NAPLO  
1772. 17. sz.



Formulas Bonnet's table of  $X, Y, Z$  +  $\varphi$  -  $\varphi$  in  $\varphi$  and  $\psi$  (I) Formulas  
 a priori (I)

Ms 5103 / 17

$$-318,5 \mu_s = +59,8 \mu_c = +24,5 \quad e = -12,8 \quad f = -24,8 \quad g = -59,8 \quad h = +59,8 \quad i = -13,0$$

$$X = (318,5 \cos \varphi - 59,8 \sin \varphi) + (59,8 \sin \varphi + 12,8 \cos \varphi) \sin \psi - (24,8 \sin \varphi + 59,8 \cos \varphi) \cos \psi + 12,1 \sin \varphi \sin \psi + 13,0 \sin \varphi \cos \psi$$

$\varphi = -60$	+164	-58 $\sin \psi$	+51 $\cos \psi$	-11 $\sin \psi$	-11 $\cos \psi$
-40	+250	-36 $\sin \psi$	+6 $\cos \psi$	-12 $\sin \psi$	-13 $\cos \psi$
-20	+303	-11 $\sin \psi$	-37 $\cos \psi$	-8 $\sin \psi$	-8 $\cos \psi$
0	+319	+13 $\sin \psi$	-59 $\cos \psi$	—	—
	+295	+30 $\sin \psi$	-54 $\cos \psi$	+8 $\sin \psi$	+8 $\cos \psi$
	+238	+41 $\sin \psi$	-26 $\cos \psi$	+12 $\sin \psi$	+13 $\cos \psi$
	+154	+45 $\sin \psi$	+9 $\cos \psi$	+11 $\sin \psi$	+11 $\cos \psi$

$$+ (-24,5 + 59,8 \sin \varphi) \sin \psi + (-59,8 + 12,8 \sin \varphi) \cos \psi + 13,0 \cos \varphi \sin \psi - 24,8 \cos \varphi \cos \psi$$

		-76 $\sin \psi$	-71 $\cos \psi$	+7 $\sin \psi$	-12 $\cos \psi$
		-63 $\sin \psi$	-68 $\cos \psi$	+10 $\sin \psi$	-19 $\cos \psi$
		-45 $\sin \psi$	-64 $\cos \psi$	+12 $\sin \psi$	-23 $\cos \psi$
		-25 $\sin \psi$	-60 $\cos \psi$	+13 $\sin \psi$	-24 $\cos \psi$
		-4 $\sin \psi$	-55 $\cos \psi$	+12 $\sin \psi$	-23 $\cos \psi$
+40		+14 $\sin \psi$	-52 $\cos \psi$	+10 $\sin \psi$	-19 $\cos \psi$
+60		+27 $\sin \psi$	-49 $\cos \psi$	+7 $\sin \psi$	-12 $\cos \psi$

$$Y = (1,2 + 17,8 \cos^2 \varphi + 637,0 \sin \varphi) + (-119,5 \cos \varphi + 19,2 \sin \varphi) \sin \psi + (49,0 \cos \varphi - 89,0 \sin \varphi) \cos \psi - 36,3 \cos \varphi \sin \psi - 39,0 \cos \varphi \cos \psi$$

$\varphi = -60$	-546	-76 $\sin \psi$	+102 $\cos \psi$	-9 $\sin \psi$	-10 $\cos \psi$
-40	-398	-110 $\sin \psi$	+125 $\cos \psi$	-21 $\sin \psi$	-23 $\cos \psi$
-20	-201	-125 $\sin \psi$	+103 $\cos \psi$	-32 $\sin \psi$	-35 $\cos \psi$
0	+19	-120 $\sin \psi$	+49 $\cos \psi$	-36 $\sin \psi$	-39 $\cos \psi$
+20	+235	-100 $\sin \psi$	-11 $\cos \psi$	-32 $\sin \psi$	-35 $\cos \psi$
+40	+421	-73 $\sin \psi$	-50 $\cos \psi$	-21 $\sin \psi$	-23 $\cos \psi$
+60	+557	-43 $\sin \psi$	-53 $\cos \psi$	-9 $\sin \psi$	-10 $\cos \psi$



II Formeln aus dem 4. in 2. überführt (Xch über Parameter)  $\lambda = 0,10 \dots 350$  überführt

II-I  $\mu_a = -327,4$   $\mu_b = +59,8$   $\mu_c = +24,5$   $e = -16,5$   $f = -24,2$   $g = -44,1$   $h = +5,9$   $i = -13,0$   
 $\mu_a - \mu_{aI} = -8,9$   $0$   $0$   $e - e_I = -3,7$   $0$   $g - g_I = +15,2$   $0$   $0$

$$X_{II} - X_I = +8,9 \cos \varphi + 3,7 \cos 2\varphi \sin \lambda + 15,2 \cos 2\varphi \cos \lambda$$

$$Y_{II} - Y_I = -15,2 \sin \varphi \sin \lambda + 3,7 \sin \varphi \cos \lambda$$

$$Z_{II} - Z_I = +17,8 \sin \varphi + 5,6 \sin 2\varphi \sin \lambda + 22,8 \sin 2\varphi \cos \lambda$$

$$X_{II} - X_I = +8,9 \cos \varphi + 3,7 \cos 2\varphi \sin \lambda + 15,2 \cos 2\varphi \cos \lambda$$

$$\varphi = -60 = +5, -2 \sin \lambda, -8 \cos \lambda$$

$$-40 = +7, +1 \sin \lambda, +3 \cos \lambda$$

$$-20 = +8, +3 \sin \lambda, +11 \cos \lambda$$

$$0 = +9, +4 \sin \lambda, +15 \cos \lambda$$

$$+20 = +8, +3 \sin \lambda, +11 \cos \lambda$$

$$+40 = +7, +1 \sin \lambda, +3 \cos \lambda$$

$$+60 = +5, -2 \sin \lambda, -8 \cos \lambda$$

$$Y_{II} - Y_I = -15,2 \sin \varphi \sin \lambda + 3,7 \sin \varphi \cos \lambda$$

$$\varphi = -60 = +13 \sin \lambda, -3 \cos \lambda$$

$$-40 = +10 \sin \lambda, -2 \cos \lambda$$

$$-20 = +5 \sin \lambda, -1 \cos \lambda$$

$$0 = 0, 0$$

$$+20 = -5 \sin \lambda, +1 \cos \lambda$$

$$+40 = -10 \sin \lambda, +2 \cos \lambda$$

$$+60 = -13 \sin \lambda, +3 \cos \lambda$$

$$Z_{II} - Z_I = +17,8 \sin \varphi + 5,6 \sin 2\varphi \sin \lambda + 22,8 \sin 2\varphi \cos \lambda$$

$$\varphi = -60 = -15, -5 \sin \lambda, -20 \cos \lambda$$

$$-40 = -11, -5 \sin \lambda, -22 \cos \lambda$$

$$-20 = -6, -4 \sin \lambda, -15 \cos \lambda$$

$$0 = 0, 0$$

$$+20 = +6, +4 \sin \lambda, +15 \cos \lambda$$

$$+40 = +11, +5 \sin \lambda, +22 \cos \lambda$$

$$+60 = +15, +5 \sin \lambda, +20 \cos \lambda$$



I Formulas

$\varphi = +60$



$\varphi=+60$	$X_t$	$X_0$	$(X_t - X_0)$		$Y_t$	$Y_0$	$(Y_t - Y_0)$
0	140	174	-34		-51	-61	+10
10	150	186	-36		-36	-52	+16
20	160	194	-34		-20	-41	+21
30	165	202	-38		-2	-28	+26
40	167	207	-40		+14	-16	+30
50	167	210	-43		+29	-2	+31
60	164	211	-47		+28	+10	+28
70	159	207	-48		+42	+22	+20
80	154	204	-50		+40	+21	+9
90	152	199	-47		+21	+29	-8
100	153	192	-39		+17	+45	-28
110	155	187	-32		+4	+46	-42
120	159	181	-22		-7	+48	-55
130	160	176	-13		-16	+48	-64
140	168	171	-3		-18	+46	-64
150	173	167	+6		-10	+44	-54
160	177	164	+13		+3	+41	-37
170	177	160	+17		+22	+40	-18
180	170	156	+17		+29	+27	+2
190	165	152	+13		+54	+24	+20
200	157	148	+9		+59	+23	+26
210	141	141	0		+70	+28	+32
220	125	135	-10		+72	+26	+46
230	107	120	-23		+69	+20	+49
240	89	122	-34		+61	+14	+47
250	73	117	-44		+44	+6	+38
260	58	112	-54		+21	-5	+26
270	44	109	-65		-7	-15	+8
280	40	108	-68		-26	-27	+1
290	48	109	-61		-52	-28	-14
300	56	112	-57		-72	-48	-24
310	64	120	-56		-82	-58	-25
320	79	127	-48		-87	-64	-23
330	94	127	-43		-86	-68	-18
340	111	150	-39		-79	-69	-10
350	127	162	-35		-67	-66	-1



$Z_t$	$Z_0$	$(Z_t - Z_0)$			
+466	+494	-28			
+458	+485	-27			
+464	+477	-13			
+475	+472	+2			
+490	+472	+17			
+509	+477	+32			
+523	+482	+41			
+524	+492	+42			
+546	+502	+42			
+552	+513	+39			
+560	+527	+33			
+562	+540	+23			
+560	+552	+8			
+553	+562	-10			
+529	+573	-34			
+512	+581	-69			
+495	+589	-94			
+496	+595	-99			
+501	+600	-99			
+518	+602	-85			
+541	+607	-66			
+562	+609	-46			
+581	+611	-30			
+604	+611	-7			
+622	+610	+12			
+628	+608	+20			
+629	+605	+24			
+574*	+600	-26			
+620 <sup>240</sup>	+593	+27			
+592	+584	+8			
+589	+572	+17			
+561	+561	0			
+524	+547	-13			
+512	+523	-21			
+499	+519	-20			
+482	+505	-23			

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



(I) Táblák

$\varphi = +40$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$\varphi = +40$	$X_t$	$X_s$	$(X_t^s - X_s)$	$X_s(X_t - X_s)$		$y_t$	$y_s$	$(y_t^2 - y_s)$	$y_s(y_t - y_s)$	
0	220	225	-5	-1100		-61	-71	+10	-700	
10	233	226	-3	-700		-49	-64	+15	-10	
20	244	246	-2	-5		-35	-53	+18	-10	-954
30	255	256	-1	-3		-19	-39	+20	-8	
40	264	264	0	0		-3	-24	+21	-5	-504
50	271	269	+2	+5		+11	-9	+20	-2	-180
60	276	274	+2	+5		+23	+5	+18	+1	+90
70	280	278	+2	+5		+20	+16	+14	+2	+224
80	283	277	+6	+17		+22	+26	+7	+2	+182
90	284	279	+5	+14		+20	+22	-3	-1	-99
100	285	279	+6	+17		+16	+28	-22	-8	-836
110	285	280	+5	+14		-2	+40	-42	-17	-1680
120	283	280	+3	+8		-18	+29	-57	-22	-2223
130	281	279	+2	+5		-28	+27	-65	-24	-2405
140	281	280	+1	+3		-26	+26	-62	-22	-2232
150	279	281	-2	-6		-9	+33	-42	-14	-1386
160	272	280	-8	-22		+12	+33	-21	-7	-693
170	263	280	-17	-48		+24	+22	+2	+1	+64
180	251	277	-26	-72	-7202	+51	+22	+18	+6	+594
190	244	274	-30	-82	-8220	+59	+24	+25	+9	+850
200	241	268	-27	-72	-7236	+64	+25	+29	+10	+1015
210	240	260	-20	-52	-5200	+70	+27	+33	+12	+1221
220	239	252	-13	-33	-3276	+75	+28	+27	+14	+1406
230	235	241	-6	-14		+76	+25	+41	+14	+1435
240	229	228	+1	+2		+73	+23	+40	+13	+1320
250	224	218	+6	+13		+64	+26	+38	+10	+988
260	213	207	+6	+12		+47	+16	+31	+5	+496
270	204	197	+7	+14		+20	+5	+15	+1	+75
280	197	189	+8	+15		-6	-8	+2	0	-16
290	185	184	+1	+2		-33	-22	-11	+2	+242
300	173	182	-9	-16		-55	-27	-18	+7	+666
310	167	183	-16	-27		-70	-51	-19	+10	+969
320	166	188	-22	-21		-79	-62	-17	+11	+1054
330	172	194	-22	-21		-84	-71	-13	+9	+923
340	187	202	-15	-30		-81	-75	-6	+5	+450
350	205	214	-9	-20		-73	-74	+1	-1	-74
			-180					+62		



$y_s$	$Z_t$	$Z_0$	$(Z_t - Z_0)$	$Z_0(Z_t - Z_0)$	$X_s + Y_s - Z_s$	
0	+375	+348	+27	+9400	+9396	-11200
	+361	+330	+31	+102	+10230	-119
-954	+349	+315	+34	+107	+10710	-122
	+348	+306	+42	+129	+12852	-140
-504	+356	+301	+55	+166	+16555	-171
-180	+366	+303	+63	+191	+19089	-188
+90	+380	+309	+71	+219	+21929	-213
+224	+397	+318	+79	+251	+25122	-244
+182	+410	+332	+78	+259	+25896	-240
-99	+426	+348	+78	+271	+27144	-258
-836	+439	+364	+75	+273	+27300	-264
-1680	+443	+380	+63	+229	+22940	-242
-2223	+437	+395	+42	+166	+16590	-180
-2405	+418	+409	+9	+37	+3681	-56
-2232	+391	+419	-28	-117	-11722	+98
-1386	+364	+428	-64	-274	-27392	+254
-693	+348	+437	-89	-389	-38893	+360
+64	+344	+442	-98	-433	-43316	+386
+594	+351	+448	-97	-425	-43456	+369
+850	+367	+454	-87	-395	-39498	+322
+1015	+388	+459	-71	-326	-32589	+264
+1221	+415	+466	-51	-228	-23766	+198
+1406	+444	+471	-27	-127	-12717	+108
+1425	+475	+479	-4	-19	-1916	+19
+1320	+507	+485	+22	+107	+10670	-92
+988	+541	+490	+51	+250	+24990	-227
+496	+567	+494	+73	+360	+36062	-343
+75	+576	+494	+82	+405	+40508	-390
-16	+586	+490	+96	+470	+47040	-455
+242	+567	+484	+83	+402	+40172	-398
+666	+534	+471	+63	+297	+29673	-306
+969	+501	+457	+44	+201	+20108	-218
+1054	+457	+437	+20	+87	+8740	-97
+923	+431	+416	+15	+62	+6246	-74
+450	+411	+393	+18	+71	+7074	-96
-74	+390	+370	+20	+74	+7400	-95
			+718			

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



(I) Táblák

$\varphi = +20$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$p=+20$	$X_t$	$X_s$	$(X_t - X_s)$	$X_s(X_t - X_s)$	$Y_t$	$Y_s$	$(Y_t - Y_s)$	$Y_s(Y_t - Y_s)$
0	285	249	+36	+8964	-77	-78	+1	-78
10	298	258	+40	+10320	-66	-73	+7	-511
20	313	266	+47	+12502	-52	-63	+11	-693
30	326	276	+50	+13800	-38	-52	+14	-728
40	338	286	+52	+14872	-25	-37	+12	-444
50	350	294	+56	+16464	-10	-22	+12	-264
60	361	303	+58	+17574	-2	-9	+7	-63
70	372	311	+61	+18971	+6	+3	+3	+9
80	380	319	+61	+19459	+14	+12	+2	+24
90	378	325	+53	+17225	+20	+19	+1	+19
100	373	331	+42	+13902	+22	+24	-2	-48
110	368	337	+31	+10447	+11	+25	-14	-350
120	361	343	+18	+6174	+1	+27	-26	-702
130	352	348	+4	+1392	-5	+24	-19	-456
140	343	352	-9	-3168	+1	+23	-22	-506
150	334	356	-22	-7832	+14	+24	-10	-240
160	325	358	-33	-11814	+21	+25	+6	+150
170	317	358	-41	-14678	+47	+27	+20	+540
180	312	357	-45	-16065	+52	+32	+20	+640
190	309	354	-45	-15930	+51	+37	+14	+518
200	309	348	-39	-13572	+47	+43	+4	+172
210	309	340	-31	-10540	+45	+48	-3	-144
220	315	330	-15	-4950	+47	+53	-6	-318
230	322	318	+4	+1272	+50	+54	-4	-216
240	330	305	+25	+7625	+53	+53	0	0
250	334	291	+43	+12513	+52	+49	+3	+147
260	333	277	+56	+15512	+46	+40	+6	+240
270	330	265	+65	+17725	+35	+27	+8	+216
280	321	253	+68	+17204	+19	+12	+7	+84
290	307	245	+62	+15190	+5	-5	+10	-50
300	291	237	+54	+12798	-17	-23	+6	-138
310	278	232	+46	+10672	-21	-40	+19	-760
320	263	232	+31	+7192	-66	-55	-11	+605
330	227*	232	-5*	-1160*	-63*	-68	+5*	-340
340	262	236	+26	+6136	-90	-77	-16	+1232
350	272	242	+30	+7260	-86	-79	-7	+553
			+834				+58	



	$Z_t$	$Z_0$	$(Z_t - Z_0)$	$Z_0(Z_t - Z_0)$		$X_t \{ + Y_t - Z_t \}$
-78	+174	+189	-15		-2835	+11721
-511	+129	+162	-23		-3726	+13535
-693	+125	+139	-14		-1946	+13755
-728	+120	+121	+2		+242	+12830
-444	+126	+110	+16		+1760	+12668
-264	+121	+105	+26		+2700	+13470
-63	+127	+105	+32		+3360	+14151
+9	+146	+112	+34		+3808	+15172
+24	+160	+122	+38		+4636	+14847
+19	+170	+135	+38		+5130	+12114
-48	+187	+148	+39		+5772	+8082
-350	+197	+162	+35		+5670	+4427
-702	+199	+173	+26		+4498	+974
-456	+192	+183	+9		+1647	-711
-506	+179	+190	-11		-2090	-1584
-240	+166	+197	-31		-6107	-1965
+150	+160	+201	-41		-8241	-3423
+540	+167	+206	-39		-8034	-6104
+640	+186	+211	-25		-5275	-10150
+578	+208	+218	-10		-2180	-13232
+172	+201	+227	+4		+908	-14309 -
-144	+248	+241	+7		+1687	-12083
-318	+265	+254	+11		+2794	-8062
-216	+280	+273	+7		+1911	-855
0	+298	+291	+7		+2037	+4588
+147	+320	+308	+12		+3696	+8964
+240	+340	+324	+16		+5184	+10568
+216	+355	+335	+20		+6700	+11241
+84	+370	+342	+28		+9576	+7712
-50	+374	+342	+32		+10944	+4196
-138	+376	+338	+38		+12844	-184
-760	+313*	+323	-10*		* - 3230	+13142*
+605	+347	+302	+45		+13590	-5793
-340	+262*	+277	-15		* - 4155	+2655*
+1232	+268	+249	+19		+4731	+2637
+553	+220	+218	+2		+436	+7377
			+311			

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



(I) *Tablata*

$\varphi = 0$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$\varphi=0$	$X_t$	$X_s$	$(X_t-X_s)$	$X_s(X_t-X_s)$		$Y_t$	$Y_s$	$(Y_t-Y_s)$	$Y_s(Y_t-Y_s)$	
0	282	260	+22		+5720	-98	-84	-14		+1176
10	287	263	+24		+6312	-85	-82	-3		+246
20	290	268	+25		+6700	-70	-75	+5		-375
30	301	275	+26		+7150	-55	-66	+11		-726
40	310	282	+28		+7896	-42	-53	+11		-583
50	320	291	+29		+8439	-28	-41	+13		-533
60	330	300	+30		+9000	-18	-29	+11		-319
70	341	311	+30		+9330	-8	-19	+11		-209
80	353	322	+31		+9982	0	-8	+8		-64
90	366	332	+34		+11288	+10	-1	+11		-11
100	376	342	+34		+11628	+16	+4	+12		+48
110	382	351	+31		+10881	+16	+7	+9		+63
120	386	360	+26		+9360	+15	+9	+6		+54
130	388	367	+21		+7707	+12	+11	+1		+11
140	382	372	+10		+3720	+21	+13	+8		+104
150	373	377	-4		-1508	+34	+16	+18		+288
160	364	378	-14		-5292	+47	+21	+26		+546
170	363	379	-16		-6064	+56	+28	+28		+784
180	364	378	-14		-5292	+57	+36	+21		+756
190	361	375	-14		-5250	+50	+44	+6		+264
200	357	370	-13		-4440	+42	+55	-13		-715
210	351	363	-12		-4356	+31	+64	-33		-2112
220	345	356	-11		-3916	+29	+71	-42		-2982
230	348	347	+1		+347	+29	+75	-46		-3450
240	353	338	+15		+5070	+32	+85	-53		-4505
250	355	327	+28		+9156	+40	+71	-31		-2201
260	353	316	+37		+11692	+58	+62	-4		-248
270	347	306	+41		+12546	+53	+49	+4		+196
280	338	296	+42		+12432	+44	+34	+10		+340
290	320	287	+33		+9471	+28	+13	+15		+195
300	305	278	+27		+7506	+11	-7	+18		-126
310	300	271	+29		+7859	-13	-29	+16		-464
320	293	266	+27		+7182	-49	-47	-2		+94
330	283	261	+22		+5742	-86	-62	-24		+1488
340	276	260	+16		+4160	-107	-73	-34		+2482
350	277	259	+18	+639	+4662	-109	-82	-27		+2214
							-	-47		



$-y_j$	$Z_t$	$Z_s$	$(Z_t - Z_s)$	$Z_s(Z_t - Z_s)$	$X_{t+s} - Z_s$
+1176	-41	+29	-70	-2030	+8926
+246	-86	-4	-82	+328	+6230
-375	-120	-33	-87	+2871	+3454
-726	-133	-59	-74	+4366	+2058
-583	-137	-78	-59	+4602	+2711
-533	-138	-92	-42	+3864	+4042
-319	-136	-101	-35	+3535	+5146
-209	-134	-105	-29	+3045	+6076
-64	-131	-103	-28	+2884	+7032
-11	-126	-101	-25	+2525	+8752
+48	-116	-97	-19	+1843	+9833
+63	-101	-92	-8	+744	+10200
+54	-91	-89	-2	+179	+9235
+11	-85	-86	+1	-86	+7804
+104	-83	-84	+1	-84	+3908
+288	-77	-81	+4	-324	-896
+546	-63	-79	+16	-1264	-3482
+784	-43	-76	+33	-2508	-2772
+756	-21	-69	+48	-3312	-1224
+264	-5	-58	+53	-3074	-1912
-715	+5	-42	+48	-2064	-3091
-2112	+10	-23	+33	-759	-5709
-2982	+14	0	+14	0	-6898
-3450	+18	+28	-10	-280	-2823
-4505	+25	+57	-32	-1824	+2389
-2201	+38	+87	-49	-4263	+11218
-248	+52	+115	-63	-7245	+18689
+196	+73	+139	-66	-9174	+21524
+340	+96	+157	-61	-9577	+21659
+195	+115	+167	-52	-8684	+17960
-126	+133	+169	-36	-6084	+13464
-464	+148	+162	-14	-2268	+9663
+94	+141	+146	-5	-730	+8006
+1488	+114	+123	-9	-1107	+8337
+2482	+67	+95	-28	-2660	+9202
+2214	+10	+62	-52	-3224	+10100
			-786		



I Táblák

$\varphi = -20$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$\varphi = -20^\circ$	$X_t$	$X_0$	$X_t - X_0$	$X_0(X_t - X_0)$	$Y_t$	$Y_0$	$Y_t - Y_0$	$Y_0(Y_t - Y_0)$	
0	209	258	-49	-12642	-106	-87	-19	+1653	
10	207	254	-47	-11938	-97	-89	-8	+712	
20	209	252	-43	-10826	-86	-85	-1	+85	
30	214	252	-38	-9576	-75	-80	+5	-400	
40	221	255	-34	-8670	-65	-70	+5	-350	
50	231	260	-29	-7540	-54	-59	+5	-295	
60	243	265	-22	-5830	-41	-49	+8	-412	
70	256	274	-18	-4932	-34	-28	+4	-152	
80	270	282	-13	-3679	-29	-29	0	0	
90	286	292	-6	-1752	-21	-22	+1	-22	
100	303	301	+2	+602	-15	-15	0	0	
110	316	310	+6	+1860	-5	-10	+5	-50	
120	330	317	+13	+4121	+5	-5	+10	-50	
130	340	324	+16	+5184	+14	-1	+15	-15	
140	345	327	+18	+5886	+20	+4	+26	+104	
150	346	330	+16	+5280	+44	+10	+34	+340	
160	345	332	+13	+4316	+55	+19	+36	+684	
170	344	332	+12	+3984	+60	+29	+31	+899	
180	342	322	+10	+3320	+59	+41	+18	+738	
190	339	320	+9	+2970	+56	+52	+3	+159	
200	335	320	+5	+1650	+52	+65	-13	-845	
210	320	329	+1	+329	+47	+76	-29	-2204	
220	324	325	-1	-325	+45	+86	-41	-3526	
230	319	324	-5	-1620	+45	+91	-46	-4186	
240	316	322	-7	-2261	+49	+92	-44	-4092	
250	313	320	-7	-2240	+56	+90	-34	-3060	
260	308	317	-9	-2853	+64	+81	-17	-1377	
270	299	314	-15	-4710	+71	+68	+3	+196	
280	289	311	-22	-6842	+67	+51	+16	+816	
290	280	304	-24	-7296	+51	+20	+21	+630	
300	274	299	-25	-7475	+28	+9	+19	+171	
310	267	292	-25	-7300	0	-15	+15	-225	
320	257	285	-28	-7980	-27	-26	-1	+36	
330	245	280	-35	-9800	-68	-54	-14	+756	
340	231	270	-39	-10530	-89	-71	-18	+1278	
350	217	264	-47	-12408	-105	-81	-24	+1944	
			-477				-126		



$\gamma_0$	$Z_t$	$Z_0$	$Z_t - Z_0$	$Z_0(Z_t - Z_0)$	$Z_0(Z_t - Z_0) \gamma_0 + \gamma_0 \eta - Z_0 \delta$
+1653	-170	-130	-37		+4921 -15910
+712	-212	-167	-45		+7515 -18741
+85	-246	-199	-47		+9353 -20104
-400	-284	-229	-55		+12595 -22571
-350	-317	-255	-62		+15810 -24830
-295	-336	-277	-59		+16343 -24178
-412	-348	-294	-54		+15876 -22118
-152	-357	-309	-48		+14822 -19916
0	-362	-318	-44		+13992 -17715
-22	-369	-326	-43		+14018 -15792
0	-375	-332	-43		+14276 -13674
-50	-383	-337	-46		+15502 -13692
-50	-388	-342	-46		+15722 -11661
-15	-389	-345	-44		+15180 -10511
+104	-384	-349	-35		+12215 -6225
+340	-364	-351	-13		+4563 +1057
+684	-335	-351	+16		-5616 +10616
+899	-311	-347	+36		-12492 +17375
+738	-287	-339	+52		-17628 +21686
+159	-263	-325	+62		-20150 +23279
-845	-247	-307	+60		-18420 +19225
-2204	-234	-281	+47		-13207 +11332
-3526	-227	-250	+26		-6578 +3327
-4186	-217	-217	0		0 -5806
-4092	-205	-182	-23		+4186 -10539
-3060	-187	-140	-44		+6292 -11592
-1377	-163	-108	-55		+5940 -10770
+196	-156	-76	-60		+4560 -9074
+816	-108	-50	-58		+2900 -8926
+630	-77	-31	-46		+1426 -8092
+171	-52	-22	-30		+660 -7964
-225	-37	-21	-16		+336 -7861
+36	-35	-31	-4		+124 -8068
+756	-48	-47	-1		+47 -9091
+1278	-76	-71	-5		+355 -9607
+1944	-121	-101	-20		+2020 -12484

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



I. Táblák

$\varphi = -40$

HAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$\varphi = -40$	$X_t$	$X_0$	$X_t - X_0$	$X_0(X_t - X_0)$	$Y_t$	$Y_0$	$Y_t - Y_0$	$Y_0(Y_t - Y_0)$	
0	184	243	-59	-14337	-95	-87	-8	+696	-
10	172	233	-61	-14213	-100	-93	-7	+651	-
20	163	225	-62	-13950	-101	-95	-6	+570	-
30	158	217	-59	-12803	-98	-92	-6	+552	-
40	157	212	-55	-11660	-95	-86	-9	+774	-
50	159	209	-50	-10450	-89	-79	-10	+790	-
60	163	209	-46	-9614	-83	-70	-13	+910	-
70	167	208	-41	-8528	-77	-61	-16	+976	-
80	172	212	-40	-8480	-73	-53	-20	+1060	-
90	179	214	-35	-7490	-66	-44	-22	+968	-
100	187	218	-31	-6758	-56	-35	-21	+735	-
110	195	220	-25	-5500	-41	-27	-14	+378	-
120	202	223	-20	-4460	-18	-20	+2	-40	-
130	214	225	-11	-2475	+3	-11	+14	-154	-
140	218	226	-8	-1808	+22	-2	+24	-48	-
150	221	227	-6	-1362	+40	+8	+32	+256	-
160	228	229	-1	-229	+52	+21	+31	+651	-
170	226	229	+7	+1603	+62	+35	+27	+945	-
180	246	231	+15	+3465	+63	+49	+14	+686	-
190	254	233	+21	+4893	+61	+63	-2	-126	-
200	260	237	+23	+5451	+58	+77	-19	-1463	-
210	262	243	+19	+4617	+56	+90	-34	-3060	-
220	262	248	+14	+3472	+56	+100	-44	-4400	-
230	262	257	+5	+1285	+58	+105	-47	-4935	-
240	262	265	-3	-795	+64	+108	-44	-4752	-
250	262	272	-10	-2720	+73	+103	-30	-3090	-
260	265	280	-15	-4200	+86	+95	-9	-855	-
270	267	286	-19	-5434	+97	+82	+15	+1230	-
280	271	290	-19	-5510	+96	+65	+31	+2015	-
290	271	292	-21	-6132	+80	+45	+35	+1575	-
300	267	291	-24	-6984	+53	+22	+31	+682	-
310	262	289	-27	-7803	+20	-3	+23	-69	-
320	250	282	-32	-9024	-14	-24	+10	-240	-
330	235	273	-38	-10374	-43	-46	+3	-138	-
340	218	265	-47	-12455	-67	-63	-4	+252	-
350	200	253	-53	-13409	-85	-77	-8	+616	-
			-814				-101		



$\frac{1}{2}p$	$Z_t$	$Z_0$	$Z_t - Z_0$	$Z_0(Z_t - Z_0)$	$\frac{1}{2}p + \frac{1}{2}q - Z_0$
+696	-258	-296	+38	-11248	-2393
+651	-287	-323	+36	-11628	-1934
+570	-317	-352	+35	-12020	-1060
+552	-348	-380	+32	-12160	-91
+774	-378	-408	+30	-12240	+1354
+790	-407	-432	+25	-10800	+1140
+910	-435	-454	+19	-8626	-78
+976	-458	-475	+17	-8075	+523
+1060	-478	-492	+14	-6888	-532
+968	-497	-508	+11	-5588	-934
+735	-519	-522	+3	-1566	-4457
+378	-542	-533	-9	+4797	-9919
-40	-566	-544	-22	+11968	-16468
-154	-591	-550	-41	+22550	-25179
-48	-585	-558	-27	+15066	-16922
+256	-565	-560	-5	+2800	-3906
+651	-540	-560	+20	-11200	+11622
+945	-525	-555	+30	-16650	+19198
+686	-501	-546	+45	-24570	+28721
-126	-482	-531	+49	-26019	+30786
-1463	-463	-512	+49	-25088	+29076
-3060	-443	-486	+43	-20898	+21455
-4400	-428	-458	+30	-13740	+12812
-4935	-416	-424	+8	-3392	-258
-4752	-404	-390	-14	+5460	-11007
-3090	-388	-355	-33	+11715	-17525
-855	-360	-320	-40	+12800	-17855
+1230	-334	-288	-46	+13248	-17452
+2015	-284	-262	-22	+5764	-9259
+1575	-235	-241	+6	-1446	-3111
+682	-195	-228	+33	-7524	+1222
-69	-173	-222	+49	-10878	+3006
-240	-168	-224	+56	-12544	+3280
-138	-180	-234	+54	-12626	+2124
+252	-202	-248	+46	-11408	-795
+616	-230	-271	+41	-11111	-1682
			+560		

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



I. Formula

$\varphi = -60$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$q = -60$	$X_t$	$X_0$	$(X_t - X_0)$	$X_0(X_t - X_0)$	$Y_t$	$Y_0$	$(Y_t - Y_0)$	$Y_0(Y_t - Y_0)$	$Z$
0	+190	+204	-14		-74	-83	+9		-
10	171	189	-18		-86	-92	+6		-
20	155	171	-16		-93	-97	+4		-
30	143	161	-18		-97	-99	+2		-
40	131	149	-18		-100	-98	-2		-
50	120	137	-17		-101	-95	-6		-
60	108	127	-19		-102	-90	-12		-
70	97	118	-21		-101	-81	-20		-
80	85	112	-27		-101	-74	-27		-
90	78	106	-28		-92	-64	-38		-
100	77	102	-25		-75	-54	-21		-
110	75	98	-23		-54	-43	-11		-
120	72	95	-23		-33	-30	-3		-
130	73	93	-20		-14	-17	+3		-
140	80	93	-13		+3	-4	+7		-
150	89	93	-4		+21	+11	+10		-
160	101	93	+8		+37	+27	+10		-
170	114	97	+17		+49	+44	+5		-
180	130	102	+28		+53	+59	-6		-
190	144	109	+35		+55	+74	-19		-
200	156	119	+37		+56	+89	-33		-
210	166	131	+35		+59	+99	-40		-
220	174	145	+29		+64	+108	-44		-
230	182	159	+23		+73	+113	-40		-
240	190	175	+15		+85	+114	-29		-
250	200	194	+6		+98	+109	-11		-
260	210	208	+2		+113	+100	+13		-
276	220	222	-2		+123	+88	+35		-
280	234	234	0		+123	+72	+51		-
290	250	242	+8		+108	+51	+57		-
300	258	247	+11		+82	+30	+52		-
310	259	247	+12		+54	+7	+47		-
320	254	245	+9		+20	-14	+34		-
330	244	239	+5		-10	-35	+25		-
340	227	229	-2		-36	-55	+19		-
350	209	217	-8		-57	-70	+13		-



$\frac{1}{2}$	$Z_t$	$Z_0$	$Z_t - Z_0$	$Z_0 / (Z_t - Z_0)$	$X_0 \xi + \frac{1}{2} \eta - Z_0$
	-370	-454	+84		
	-390	-472	+82		
	-407	-491	+84		
	-428	-512	+84		
	-450	-532	+82		
	-469	-551	+82		
	-491	-572	+81		
	-513	-589	+76		
	-539	-606	+67		
	-575	-622	+47		
	-602	-636	+34		
	-631	-647	+16		
	-645	-658	+13		
	-650	-665	+15		
	-655	-670	+15		
	-627*	-672	+45		
	-639	-671	+32		
	-638	-666	+28		
	-639	-658	+19		
	-636	-646	+10		
	-633	-631	-2		
	-631	-612	-19		
	-624	-590	-34		
	-623	-567	-56		
	-606	-542	-64		
	-588	-517	-71		
	-561	-492	-69		
	-522	-470	-52		
	-476	-450	-26		
	-425	-435	+10		
	-380	-424	+44		
	-353	-417	+64		
	-341	-416	+75		
	-343	-420	+77		
	-350	-427	+77		
	-359	-440	+81		

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$\chi$	+5	$q=-60$	+7	$q=-40$	+8	-20	+9	0	+8	+20	+7	+40	+5	+6						
0	0	-8	-3	0	+3	+10	0	+11	+19	0	+15	+24	0	+3	+10	0	-8			
10	0	-8	-3	0	+3	+10	+1	+11	+20	+1	+15	+25	+1	+11	+20	0	+3	+10	0	-8
20	-1	-8	-4	0	+3	+10	+1	+10	+19	+1	+14	+24	+1	+10	+19	0	+3	+10	-1	-8
30	-1	-7	-3	+1	+3	+11	+2	+10	+20	+2	+13	+24	+2	+10	+20	+1	+3	+11	-1	-7
40	-1	-6	-2	+1	+2	+10	+2	+8	+18	+3	+12	+24	+2	+8	+18	+1	+2	+10	-1	-6
50	-2	-5	-2	+1	+2	+10	+2	+7	+17	+3	+10	+22	+2	+7	+17	+1	+2	+10	-2	-5
60	-2	-4	-1	+1	+2	+10	+3	+6	+17	+3	+8	+20	+3	+6	+17	+1	+2	+10	-2	-4
70	-2	-3	0	+1	+1	+9	+3	+4	+15	+4	+5	+18	+3	+4	+15	+1	+1	+9	-2	-3
80	-2	-1	+2	+1	+1	+9	+3	+2	+13	+4	+3	+16	+3	+2	+13	+1	+1	+9	-2	-1
90	-2	0	+3	+1	0	+8	+3	0	+11	+4	0	+13	+3	0	+11	+1	0	+8	-2	0
100	-2	+1	+4	+1	-1	+7	+3	-2	+9	+4	-3	+10	-3		+9			+7		
110	-2	+3	+6	+1	-1	+7	+3	-4	+7	+4	-5	+8			+7			+7		
120	-2	+4	+7	+1	-2	+6	+3	-6	+5	+3	-8	+4			+5			+6		
130	-2	+5	+8	+1	-2	+6	+2	-7	+3	+3	-10	+2			+3			+6		
140	-1	+6	+10	+1	-2	+6	+2	-8	+2	+3	-12	0			+2			+6		
150	-1	+7	+11	+1	-3	+5	+2	-10	0	+2	-13	-2			0			+5		
160	-1	+8	+12	0	-3	+4	+1	-10	-1	+1	-14	-4			-1			+4		
170	0	+8	+13	0	-3	+4	+1	-11	-2	+1	-15	-5			-2			+4		
180	0	+8	+13	0	-3	+4	0	-11	-3	0	-15	-6			-3			+4		
190	0	+8	+13	0	-3	+4	-1	-11	-4	-1	-15	-7			-4			+4		
200	+1	+8	+14	0	-3	+4	-1	-10	-3	-1	-14	-6			-3			+4		
210	+1	+7	+13	-1	-3	+3	-2	-10	-4	-2	-13	-6			-4			+3		
220	+1	+6	+12	-1	-2	+4	-2	-8	-2	-3	-12	-6			-2			+4		
230	+2	+5	+12	-1	-2	+4	-2	-7	-1	-3	-10	-4			-1			+4		
240	+2	+4	+11	-1	-2	+4	-3	-6	-1	-3	-8	-2			-1			+4		
250	+2	+3	+10	-1	-1	+5	-3	-4	+1	-4	-5	0			+1			+5		
260	+2	+1	+8	-1	-1	+5	-3	-2	+3	-4	-3	+2			+3			+5		
270	+2	0	+7	-1	0	+6	-3	0	+5	-4	0	+5			+5			+6		
280	+2	-1	+6	-1	+1	+7	-3	+2	+7	-4	+3	+8			+7			+7		
290	+2	-3	+4	-1	+1	+7	-3	+4	+9	-4	+5	+10			+9			+7		
300	+2	-4	+3	-1	+2	+8	-3	+6	+11	-3	+8	+14			+11			+8		
310	+2	-5	+2	-1	+2	+8	-2	+7	+10	-3	+10	+16			+10			+8		
320	+1	-6	0	-1	+2	+8	-2	+8	+14	-3	+12	+18			+14			+8		
330	+1	-7	-1	-1	+3	+9	-2	+10	+16	-2	+13	+20			+16			+9		
340	+1	-8	-2	0	+3	+10	-1	+10	+17	-1	+14	+22			+17			+10		
350	0	-8	-3	0	+3	+10	-1	+11	+18	-1	+15	+23			+18			+10		



0	y	-60			-40			-20			0	+20			+40			+60		
-3	0	0	-3	-3	0	-2	-2	0	-1	-1	0	0	+1	+1	0	+2	+2	0	+3	+3
-2	10	+2	-3	-1	+2	-2	0	+1	-1	0	0	-1	+1	0	-2	+2	0	-2	+3	+1
-4	20	+4	-3	+1	+3	-2	+1	+2	-1	+1	0	-2	+1	-1	-3	+2	-1	-4	+3	-1
-3	30	+7	-3	+4	+5	-2	+3	+3	-1	+2	0	-3	+1	-2	-5	+2	-3	-7	+3	-4
-2	40	+9	-2	+7	+6	-2	+4	+3	-1	+2	0	-3	+1	-2	-6	+2	-4	-9	+2	-7
-2	50	+10	-2	+8	+8	-1	+7	+4	-1	+3	0	-4	+1	-3	-8	+1	-7	-10	+2	-8
-1	60	+12	-2	+10	+9	-1	+8	+4	-1	+3	0	-4	+1	-3	-9	+1	-8	-12	+2	-10
0	70	+13	-1	+12	+9	-1	+8	+5	0	+5	0	-5	0	-5	-9	+1	-8	-13	+1	-12
+2	80	+13	-1	+12	+10	0	+10	+5	0	+5		-5	0	-5	-10	0	-10	-13	+1	-12
+3	90	+13	0	+13	+10	0	+10	+5	0	+5		-5	0	-5	-10	0	-10	-13	0	-13
+4	100	+13	+1	+14	+10	0	+10	+5	0	+5				-5			-10			-14
+6	110	+13	+1	+14	+9	+1	+10	+5	0	+5				-5			-10			-14
+7	120	+12	+2	+14	+9	+1	+10	+4	+1	+5				-5			-10			-14
+8	130	+10	+2	+12	+8	+1	+9	+4	+1	+5				-5			-9			-12
+10	140	+9	+2	+11	+6	+2	+8	+3	+1	+4				-4			-8			-11
+10	150	+7	+3	+10	+5	+2	+7	+3	+1	+4				-4			-7			-10
+12	160	+4	+3	+7	+3	+2	+5	+2	+1	+3				-3			-5			-7
+13	170	+2	+3	+5	+2	+2	+4	+1	+1	+2				-2			-4			-5
+13	180	0	+3	+3	0	+2	+2	0	+1	+1				-1			-2			-3
+13	190	-2	+3	+1	-2	+2	0	-1	+1	0				0			0			-1
+14	200	-4	+3	-1	-3	+2	-1	-2	+1	-1				+1			+1			+1
+13	210	-7	+3	-4	-5	+2	-3	-3	+1	-2				+2			+3			+4
+12	220	-9	+2	-7	-6	+2	-4	-3	+1	-2				+2			+4			+7
+12	230	-10	+2	-8	-8	+1	-7	-4	+1	-3				+3			+7			+8
+11	240	-12	+2	-10	-9	+1	-8	-4	+1	-3				+3			+8			+10
+10	250	-13	+1	-12	-9	+1	-8	-5	0	-5	0			+5			+8			+12
+8	260	-13	+1	-12	-10	0	-10	-5	0	-5	0			+5			+10			+12
+7	270	-13	0	-13	-10	0	-10	-5	0	-5	0			+5			+10			+13
+6	280	-13	-1	-14	-10	0	-10	-5	0	-5	0			+5			+10			+14
+4	290	-13	-1	-14	-9	-1	-10	-5	0	-5	0			+5			+10			+14
+3	300	-12	-2	-14	-9	-1	-10	-4	-1	-5	0			+5			+10			+14
+2	310	-10	-2	-12	-8	-1	-9	-4	-1	-5	0			+5			+9			+12
0	320	-9	-2	-11	-6	-2	-8	-3	-1	-4	0			+4			+8			+11
-1	330	-7	+3	-10	-5	-2	-7	-3	-1	-4	0			+4			+7			+10
-2	340	-4	-3	-7	-3	-2	-5	-2	-1	-3	0			+3			+5			+7
-3	350	-2	-3	-5	-2	-2	-4	-1	-1	-2	0			+2			+4			+5

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



Z	-15	-60	-11	-40	-6	-20	0	<del>+60</del>	<del>(+40)</del>	<del>(+20)</del>
0	0	-20 -35	0	-22 -33	0	-15 -21	0	0 +15 +35	0	0 +22 +33
10	-1	-20 -36	-1	-22 -34	-1	-15 -22	0	+1 +15 +36	+1	+1 +22 +34
20	-2	-19 -36	-2	-21 -34	-1	-14 -21	0	+1 +14 +36	+2	+2 +21 +34
30	-3	-17 -35	-3	-19 -33	-2	-13 -21	0	+2 +13 +35	+3	+3 +19 +33
40	-3	-15 -33	-3	-17 -31	-3	-11 -20	0	+3 +11 +33	+3	+3 +17 +31
50	-4	-13 -32	-4	-14 -29	-3	-10 -19	0	+3 +10 +32	+4	+4 +14 +29
60	-4	-10 -29	-4	-11 -26	-3	-8 -17	0	+3 +8 +29	+4	+4 +11 +26
70	-5	-7 -27	-5	-7 -23	-4	-5 -15	0	+4 +5 +27	+5	+5 +7 +23
80	-5	-4 -24	-5	-4 -20	-4	-3 -13	0	+4 +3 +24	+5	+5 +4 +20
90	-5	0 -20	-5	0 -16	-4	0 -10	0	+4 0 +20	+5	0 +16
100	-5	+4 -16	-5	+4 -12	-4	+3 -7		+16		+12
110	-5	+7 -13	-5	+7 -9	-4	+5 -5		+13		+9
120	-4	+10 -9	-4	+11 -4	-3	+8 -1		+9		+4
130	-4	+13 -6	-4	+14 -1	-3	+10 +1		+6		+1
140	-3	+15 -3	-3	+17 -3	-3	+11 +2		+3		+3
150	-3	+17 -1	-3	+19 +5	-2	+13 +5		+1		-5
160	-2	+19 +2	-2	+21 +8	-1	+14 +7		-2		-8
170	-1	+20 +4	-1	+22 +10	-1	+15 +8		-4		-10
180	0	+20 +5	0	+22 +11	0	+15 +9		-5		-11
190	+1	+20 +6	+1	+22 +12	+1	+15 +10		-6		-12
200	+2	+19 +6	+2	+21 +12	+1	+14 +9		-6		-12
210	+3	+17 +5	+3	+19 +11	+2	+13 +9		-5		-11
220	+3	+15 +3	+3	+17 +9	+3	+11 +8		-3		-9
230	+4	+13 +2	+4	+14 +7	+3	+10 +7		-2		-7
240	+4	+10 -1	+4	+11 +4	+3	+8 +5		+1		-4
250	+5	+7 -3	+5	+7 +1	+4	+5 +3		+3		-1
260	+5	+4 -6	+5	+4 -2	+4	+3 +1		+6		+2
270	+5	0 -10	+5	0 -6	+4	0 -2		+10		+6
280	+5	-4 -14	+5	-4 -10	+4	-3 -5		+14		+10
290	+5	-7 -17	+5	-7 -13	+4	-5 -7		+17		+13
300	+4	-10 -21	+4	-11 -18	+3	-8 -11		+21		+18
310	+4	-13 -24	+4	-14 -21	+3	-10 -13		+24		+21
320	+3	-15 -27	+3	-17 -25	+3	-11 -14		+27		+25
330	+3	-17 -29	+3	-19 -27	+2	-13 -17		+29		+27
340	+2	-19 -32	+2	-21 -30	+1	-14 -19		+32		+30
350	+1	-20 -34	+1	-22 -32	+1	-15 -20		+34		+32



(I) Táblák

X

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$\lambda$	+164	$\varphi = -60$				$\varphi = -40$				-20				0							
0	0	+51	0	-11	+204	+250	0	+6	0	-13	+243	+303	0	-37	0	-8	+258	+319	0	-59	0
10	-10	+50	-4	-11	+189		-6	+6	-4	-13	+233		-2	-36	-3	-8	+254		+2	-58	-0
20	-20	+48	-7	-10	+171		-12	+6	-8	-11	+225		-4	-35	-5	-7	+252		+4	-55	0
30	-29	+44	-10	-8	+161		-18	+5	-10	-10	+217		-6	-32	-7	-6	+252		+7	-51	0
40	-37	+39	-11	-6	+149		-23	+5	-12	-8	+212		-7	-28	-8	-5	+255		+8	-45	0
50	-44	+33	-11	-5	+137		-28	+4	-12	-5	+209		-8	-24	-8	-3	+260		+10	-38	0
60	-50	+26	-10	-3	+127		-31	+3	-10	-3	+209		-10	-19	-7	-2	+265		+11	-30	0
70	-55	+17	-7	-1	+118		-34	+2	-8	-2	+208		-10	-13	-5	-1	+274		+12	-20	0
80	-57	+9	-4	0	+112		-35	+1	-4	0	+212		-11	-6	-2	0	+283		+13	-10	0
90	-58	0	0	0	+106		-36	0	0	0	+214		-11	0	0	0	+292		+13	0	0
100	-57	-9	+4	0	+102		-35	-1	+4	0	+218		-11	+6	+2	0	+301		+13	+10	0
110	-55	-17	+7	-1	+98		-34	-2	+8	-2	+220		-10	+12	+5	-1	+310		+12	+20	0
120	-50	-26	+10	-3	+95		-31	-2	+10	-2	+223		-10	+19	+7	-2	+317		+11	+20	0
130	-44	-32	+11	-5	+93		-28	-4	+12	-5	+225		-8	+24	+8	-2	+324		+10	+28	0
140	-37	-39	+11	-6	+93		-23	-5	+12	-8	+226		-7	+28	+8	-5	+327		+8	+45	0
150	-29	-44	+10	-8	+93		-18	-5	+10	-10	+227		-6	+32	+7	-6	+330		+7	+51	0
160	-20	-48	+7	-10	+93		-12	-6	+8	-11	+229		-4	+35	+5	-7	+332		+4	+55	0
170	-10	-50	+4	-11	+97		-6	-6	+4	-12	+229		-2	+36	+2	-8	+332		+2	+58	0
180	0	-51	0	-11	+102		0	-6	0	-12	+231		0	+37	0	-8	+332		0	+59	0
190	+10	-50	-4	-11	+109		+6	-6	-4	-13	+233		+2	+36	-2	-8	+330		-2	+58	0
200	+20	-48	-7	-10	+119		+12	-6	-8	-11	+237		+4	+35	-5	-7	+330		-4	+55	0
210	+29	-44	-10	-8	+131		+18	-5	-10	-10	+243		+6	+32	-7	-6	+329		-7	+51	0
220	+37	-39	-11	-6	+145		+23	-5	-12	-8	+248		+7	+28	-8	-5	+325		-8	+45	0
230	+44	-32	-11	-5	+159		+28	-4	-12	-5	+257		+8	+24	-8	-2	+324		-10	+28	0
240	+50	-26	-10	-3	+175		+31	-2	-10	-2	+265		+10	+19	-7	-2	+323		-11	+20	0
250	+55	-17	-7	-1	+194		+34	-2	-8	-2	+272		+10	+13	-5	-1	+320		-12	+20	0
260	+57	-9	-4	0	+208		+35	-1	-4	0	+280		+11	+6	-2	0	+317		-13	+10	0
270	+58	0	0	0	+222		+36	0	0	0	+286		+11	0	0	0	+314		-13	0	0
280	+57	+9	+4	0	+234		+35	+1	+4	0	+290		+11	-6	+2	0	+311		-13	-10	0
290	+55	+17	+7	-1	+242		+34	+2	+8	-2	+292		+10	-13	+5	-1	+304		-12	-20	0
300	+50	+26	+10	-2	+247		+31	+2	+10	-2	+291		+10	-19	+7	-2	+299		-11	-20	0
310	+44	+32	+11	-5	+247		+28	+4	+12	-5	+289		+8	-24	+8	-2	+292		-10	-28	0
320	+37	+39	+11	-6	+245		+23	+5	+12	-8	+282		+7	-28	+8	-5	+285		-8	-45	0
330	+29	+44	+10	-8	+239		+18	+5	+10	-10	+273		+6	-32	+7	-6	+280		-7	-51	0
340	+20	+48	+7	-10	+229		+12	+6	+8	-11	+265		+4	-35	+5	-7	+270		-4	-55	0
350	+10	+50	+4	-11	+217		+6	+6	+4	-13	+253		+2	-36	+2	-8	+264		-2	-58	0



0					+20					+40					+60							
0	-59	0	0	+260	+295	0	-54	0	+8	+249	+238	0	-26	0	+13	+225	+154	0	+9	0	+11	+174
+2	-58	-0	0	+263		+5	-53	+3	+8	+258		+7	-26	+4	+13	+236		+8	+9	+4	+11	+186
+4	-55	0	0	+268		+10	-51	+5	+7	+266		+14	-25	+8	+11	+246		+15	+8	+7	+10	+194
+7	-51	0	0	+275		+15	-47	+7	+6	+276		+21	-23	+10	+10	+256		+23	+8	+10	+8	+203
+8	-45	0	0	+282		+19	-41	+8	+5	+286		+26	-20	+12	+8	+264		+29	+7	+11	+6	+207
+10	-38	0	0	+291		+23	-35	+8	+3	+294		+31	-17	+12	+5	+269		+34	+6	+11	+5	+210
+11	-30	0	0	+300		+26	-27	+7	+2	+303		+36	-13	+10	+3	+274		+39	+5	+10	+3	+211
+12	-20	0	0	+311		+28	-18	+5	+1	+311		+39	-9	+8	+2	+278		+42	+3	+7	+1	+207
+13	-10	0	0	+322		+30	-9	+3	0	+319		+40	-5	+4	0	+277		+44	+2	+4	0	+204
+13	0	0	0	+332		+30	0	0	0	+325		+41	0	0	0	+279		+45	0	0	0	+199
+13	+10	0	0	+342		+30	+9	-3	0	+331		+40	+5	-4	0	+279		+44	-2	-4	0	+192
+12	+20	0	0	+351		+28	+18	-5	+1	+337		+39	+9	-8	+2	+280		+42	-3	-7	+1	+187
+11	+30	0	0	+360		+26	+27	-7	+2	+343		+36	+13	-10	+3	+280		+39	-5	-10	+3	+181
+10	+38	0	0	+367		+23	+35	-8	+3	+348		+31	+17	-12	+5	+279		+34	-6	-11	+5	+176
+8	+45	0	0	+372		+19	+41	-8	+5	+352		+26	+20	-12	+8	+280		+29	-7	-11	+6	+171
+7	+51	0	0	+377		+15	+47	-7	+6	+356		+21	+23	-10	+10	+281		+23	-8	-10	+8	+167
+4	+55	0	0	+378		+10	+51	-5	+7	+358		+14	+25	-8	+11	+280		+15	-8	-7	+10	+164
+2	+58	0	0	+379		+5	+53	-2	+8	+358		+7	+26	-4	+13	+280		+8	-9	-4	+11	+160
0	+59	0	0	+378		0	+54	0	+8	+357		0	+26	0	+13	+277		0	-9	0	+11	+156
+2	+58	0	0	+375		-5	+53	+3	+8	+354		-7	+26	+4	+13	+274		-8	-9	+4	+11	+152
+4	+55	0	0	+370		-10	+51	+5	+7	+348		-14	+25	+8	+11	+268		-15	-8	+7	+16	+148
+7	+51	0	0	+363		-15	+47	+7	+6	+340		-21	+23	+10	+10	+260		-23	-8	+10	+8	+141
+8	+45	0	0	+356		-19	+41	+8	+5	+330		-26	+20	+12	+8	+252		-29	-7	+11	+6	+135
+10	+38	0	0	+347		-23	+35	+8	+3	+318		-31	+17	+12	+5	+244		-34	-6	+11	+5	+130
+11	+30	0	0	+338		-26	+27	+7	+2	+305		-36	+13	+10	+3	+228		-39	-5	+10	+3	+123
+12	+20	0	0	+327		-28	+18	+5	+1	+291		-39	+9	+8	+2	+218		-42	-3	+7	+1	+117
+13	+10	0	0	+316		-30	+9	+3	0	+277		-40	+5	+4	0	+207		-44	-2	+4	0	+112
+13	0	0	0	+306		-30	0	0	0	+265		-41	0	0	0	+197		-45	0	0	0	+109
+13	-10	0	0	+296		-30	-9	-3	0	+253		-40	-5	-4	0	+189		-44	+2	-4	0	+108
+12	-20	0	0	+287		-28	-18	-5	+1	+245		-39	-9	-8	+2	+184		-42	+3	-7	+1	+109
+11	-30	0	0	+278		-26	-27	-7	+2	+237		-36	-13	-10	+3	+182		-39	+5	-10	+3	+113
+10	-38	0	0	+271		-23	-35	-8	+3	+232		-31	-17	-12	+5	+183		-34	+6	-11	+5	+120
+8	-45	0	0	+266		-19	-41	-8	+5	+232		-26	-20	-12	+8	+188		-29	+7	-11	+6	+127
+7	-51	0	0	+261		-15	-47	-7	+6	+232		-21	-23	-10	+10	+194		-23	+8	-10	+8	+137
+4	-55	0	0	+260		-10	-51	-5	+7	+236		-14	-25	-8	+11	+202		-15	+8	-7	+10	+150
+2	-58	0	0	+259		-5	-53	-3	+8	+242		-7	-26	-4	+13	+214		-8	+9	-4	+11	+162



(I) Táblák

g

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



y	$\varphi = -60$					-40					-20					0				
0	0	-71	0	-12	-83	0	-68	0	-19	-87	0	-64	0	-22	-87	0	-60	0		
10	-13	-70	+2	-11	-92	-11	-67	+3	-18	-93	-8	-63	+4	-22	-89	-4	-59	+4		
20	-26	-67	+5	-9	-97	-22	-64	+6	-15	-95	-15	-60	+8	-18	-85	-9	-56	+8		
30	-38	-61	+6	-6	-99	-32	-59	+9	-10	-92	-23	-55	+10	-12	-80	-13	-52	+11		
40	-49	-54	+7	-2	-98	-41	-52	+10	-3	-86	-29	-49	+12	-4	-70	-16	-46	+13		
50	-58	-46	+7	+2	-95	-48	-44	+10	+3	-79	-34	-41	+12	+4	-59	-19	-39	+13		
60	-66	-36	+6	+6	-90	-55	-34	+9	+10	-70	-39	-32	+10	+12	-49	-22	-30	+11		
70	-71	-24	+5	+9	-81	-59	-23	+6	+15	-61	-42	-22	+8	+18	-38	-24	-21	+8		
80	-75	-12	+2	+11	-74	-62	-12	+2	+18	-53	-44	-11	+4	+22	-29	-25	-10	+4		
90	-76	0	0	+12	-64	-63	0	0	+19	-44	-45	0	0	+22	-22	-25	0	0		
100	-75	+12	-2	+11	-54	-62	+12	-2	+18	-35	-44	+11	-4	+22	-15	-25	+10	-4		
110	-71	+24	-5	+9	-43	-59	+22	-6	+15	-27	-42	+22	-8	+18	-10	-24	+21	-8		
120	-66	+36	-6	+6	-30	-55	+34	-9	+10	-20	-39	+32	-10	+12	-5	-22	+30	-11		
130	-58	+46	-7	+2	-17	-48	+44	-10	+2	-11	-34	+41	-12	+4	-1	-19	+39	-12		
140	-49	+54	-7	-2	-4	-41	+52	-10	-2	-2	-29	+49	-12	-4	+4	-16	+46	-12		
150	-38	+61	-6	-6	+11	-32	+59	-9	-10	+8	-23	+55	-10	-12	+10	-12	+52	-11		
160	-26	+67	-5	-9	+27	-22	+64	-6	-15	+21	-15	+60	-8	-18	+19	-9	+56	-8		
170	-13	+70	-2	-11	+44	-11	+67	-2	-18	+35	-8	+63	-4	-22	+29	-4	+59	-4		
180	0	+71	0	-12	+59	0	+68	0	-19	+49	0	+64	0	-22	+41	0	+60	0		
190	+13	+70	+2	-11	+74	+11	+67	+2	-18	+63	+8	+63	+4	-22	+53	+4	+59	+4		
200	+26	+67	+5	-9	+89	+22	+64	+6	-15	+77	+15	+66	+8	-18	+65	+9	+56	+8		
210	+38	+61	+6	-6	+99	+32	+59	+9	-10	+90	+23	+55	+10	-12	+76	+13	+52	+11		
220	+49	+54	+7	-2	+108	+41	+52	+10	-3	+100	+29	+49	+12	-4	+86	+16	+46	+12		
230	+58	+46	+7	+2	+113	+48	+44	+10	+2	+105	+34	+41	+12	+4	+91	+19	+39	+12		
240	+66	+36	+6	+6	+114	+55	+34	+9	+10	+108	+39	+32	+10	+12	+93	+22	+30	+11		
250	+71	+24	+5	+9	+109	+59	+23	+6	+15	+103	+42	+22	+8	+18	+90	+24	+21	+8		
260	+75	+12	+2	+11	+100	+62	+12	+2	+18	+95	+44	+11	+4	+22	+81	+25	+10	+4		
270	+76	0	0	+12	+88	+63	0	0	+19	+82	+45	0	0	+22	+68	+25	0	0		
280	+75	-12	-2	+11	+72	+62	-12	-2	+18	+65	+44	-11	-4	+22	+51	+25	-10	-4		
290	+71	-24	-5	+9	+51	+59	-23	-6	+15	+45	+42	-22	-8	+18	+30	+24	-21	-8		
300	+66	-36	-6	+6	+30	+55	-34	-9	+10	+22	+39	-32	-10	+12	+9	+22	-30	-11		
310	+58	-46	-7	+2	+7	+48	-44	-10	+3	-3	+34	-41	-12	+4	-15	+19	-39	-12		
320	+49	-54	-7	-2	-14	+41	-52	-10	-2	-24	+29	-49	-12	-4	-36	+16	-46	-12		
330	+38	-61	-6	-6	-35	+32	-59	-9	-10	-46	+23	-55	-10	-12	-54	+13	-52	-11		
340	+26	-67	-5	-9	-55	+22	-64	-6	-15	-63	+15	-60	-8	-18	-71	+9	-56	-8		
350	+13	-70	-2	-11	-70	+11	-67	-2	-18	-77	+8	-63	-4	-22	-81	+4	-59	-4		



0					+20					+40					+60				
0	-60	0	-24	-84	0	-55	0	-23	-78	0	-52	0	-19	-71	0	-49	0	-12	-61
-4	-59	+4	-23	-82	-1	-54	+4	-22	-73	+2	-51	+3	-18	-64	+5	-48	+2	-11	-52
-9	-56	+8	-18	-75	-1	-52	+8	-18	-63	+5	-49	+6	-15	-53	+9	-46	+5	-9	-41
-13	-52	+11	-12	-66	-2	-48	+10	-12	-52	+7	-45	+9	-10	-39	+14	-42	+6	-6	-28
-16	-46	+13	-4	-53	-3	-42	+12	-4	-37	+9	-40	+10	-3	-24	+17	-38	+7	-2	-16
-19	-39	+13	+4	-41	-3	-35	+12	+4	-22	+11	-33	+10	+3	-9	+21	-32	+7	+2	-2
-22	-30	+11	+12	-29	-3	-28	+10	+12	-9	+12	-26	+9	+10	+5	+23	-25	+6	+6	+10
-24	-21	+8	+18	-19	-4	-19	+8	+18	+3	+13	-18	+6	+15	+16	+25	-17	+5	+9	+22
-25	-10	+4	+23	-8	-4	-10	+4	+22	+12	+14	-9	+3	+18	+26	+27	-9	+2	+11	+31
-25	0	0	+24	-1	-4	0	0	+23	+19	+14	0	0	+19	+33	+27	0	0	+12	+39
-25	+10	-4	+23	+4	-4	+10	-4	+22	+24	+14	+9	-3	+18	+38	+27	+9	-2	+11	+45
-24	+21	-8	+18	+7	-4	+19	-8	+18	+25	+13	+18	-6	+15	+40	+25	+17	-5	+9	+46
-22	+30	-11	+12	+9	-3	+28	-10	+12	+27	+12	+26	-9	+10	+39	+23	+25	-6	+6	+48
-19	+39	-13	+4	+11	-3	+35	-12	+4	+24	+11	+33	-10	+3	+37	+21	+32	-7	+2	+48
-16	+46	-13	-4	+13	-3	+42	-12	-4	+23	+9	+40	-10	-3	+36	+17	+38	-7	-2	+46
-13	+52	-11	-12	+16	-2	+48	-10	-12	+24	+7	+45	-9	-10	+33	+14	+42	-6	-6	+44
-9	+56	-8	-18	+21	-1	+52	-8	-18	+25	+5	+49	-6	-15	+33	+9	+46	-5	-9	+41
-4	+59	-4	-23	+28	-1	+54	-4	-22	+27	+2	+51	-3	-18	+32	+5	+48	-2	-11	+40
0	+60	0	-24	+36	0	+55	0	-23	+32	0	+52	0	-19	+33	0	+49	0	-12	+37
+4	+59	+4	-23	+44	+1	+54	+4	-22	+37	-2	+51	+3	-18	+34	-5	+48	+2	-11	+34
+9	+56	+8	-18	+55	+1	+52	+8	-18	+43	-5	+49	+6	-15	+35	-9	+46	+5	-9	+33
+13	+52	+11	-12	+66	+2	+48	+10	-12	+48	-7	+45	+9	-10	+37	-14	+42	+6	-6	+28
+16	+46	+13	-4	+71	+3	+42	+12	-4	+53	-9	+40	+10	-3	+38	-17	+38	+7	-2	+26
+19	+39	+13	+4	+75	+3	+35	+12	+4	+54	-11	+33	+10	+3	+35	-21	+32	+7	+2	+20
+22	+30	+11	+12	+85	+3	+28	+10	+12	+53	-12	+26	+9	+10	+33	-23	+25	+6	+6	+14
+24	+21	+8	+18	+71	+4	+19	+8	+18	+49	-13	+18	+6	+15	+26	-25	+17	+5	+9	+6
+25	+10	+4	+23	+62	+4	+10	+4	+22	+40	-14	+9	+3	+18	+16	-27	+9	+2	+11	-5
+25	0	0	+24	+49	+4	0	0	+23	+27	-14	0	0	+19	+5	-27	0	0	+12	-15
+25	-10	-4	+23	+34	+4	-10	-4	+22	+12	-14	-9	-3	+18	-8	-27	-9	-2	+11	-27
+24	-21	-8	+18	+13	+4	-19	-8	+18	-5	-13	-18	-6	+15	-22	-25	-17	-5	+9	-38
+22	-30	-11	+12	-7	+3	-28	-10	+12	-23	-12	-26	-9	+10	-37	-23	-25	-6	+6	-48
+19	-39	-13	+4	-29	+3	-35	-12	+4	-40	-11	-33	-10	+3	-51	-21	-32	-7	+2	-58
+16	-46	-13	-4	-47	+3	-42	-12	-4	-55	-9	-40	-10	-3	-62	-17	-38	-7	-2	-64
+13	-52	-11	-12	-62	+2	-48	-10	-12	-68	-7	-45	-9	-10	-71	-14	-42	-6	-6	-68
+9	-56	-8	-18	-73	+1	-52	-8	-18	-77	-5	-49	-6	-15	-75	-9	-46	-5	-9	-69
+4	-59	-4	-23	-82	+1	-54	-4	-22	-79	-2	-51	-3	-18	-74	-5	-48	-2	-11	-66



(I) Táblák

2

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



Z	-546	$\varphi = -60$						-40						-20						0			
0	0	+102	0	-10	-454	-398	0	+125	0	-23	-296	-201	0	+103	0	-25	-133	+19	0	+49	0	-	-
10	-13	+100	-3	-10	-472		-19	+123	-7	-22	-323		-22	+101	-11	-34	-167		-21	+48	-12	-	-
20	-26	+96	-6	-9	-491		-38	+118	-14	-20	-352		-43	+97	-21	-31	-199		-41	+46	-23	-	-
30	-38	+88	-8	-8	-512		-55	+108	-18	-17	-380		-63	+89	-28	-26	-229		-60	+42	-31	-	-
40	-49	+78	-9	-6	-532		-71	+96	-21	-14	-408		-80	+79	-32	-21	-255		-77	+38	-35	-	-
50	-58	+66	-9	-4	-551		-84	+80	-21	-9	-432		-96	+66	-32	-14	-277		-92	+32	-35	-	-
60	-66	+51	-8	-3	-572		-95	+63	-18	-6	-454		-108	+52	-28	-9	-294		-104	+25	-31	-	-
70	-71	+35	-6	-1	-589		-103	+43	-14	-3	-475		-118	+35	-21	-4	-309		-113	+17	-23	-	-
80	-75	+18	-3	0	-606		-108	+22	-7	-1	-492		-123	+18	-11	-1	-318		-118	+9	-12	-	-
90	-76	0	0	0	-622		-110	0	0	0	-508		-125	0	0	0	-326		-120	0	0	0	0
100	-75	-18	+3	0	-636		-108	-22	+7	-1	-522		-123	-18	+11	-1	-332		-118	-9	+12	-	-
110	-71	-35	+6	-1	-647		-103	-43	+14	-3	-533		-118	-35	+21	-4	-337		-113	-17	+23	-	-
120	-66	-51	+8	-3	-658		-95	-63	+18	-6	-544		-108	-52	+28	-9	-342		-104	-25	+31	-	-
130	-58	-66	+9	-4	-665		-84	-80	+21	-9	-550		-96	-66	+32	-14	-345		-92	-32	+35	-	-
140	-49	-78	+9	-6	-670		-71	-96	+21	-14	-558		-80	-79	+32	-21	-349		-77	-38	+35	-	-
150	-38	-88	+8	-8	-672		-55	-108	+18	-17	-560		-63	-89	+28	-26	-351		-60	-42	+31	-	-
160	-26	-96	+6	-9	-671		-38	-118	+14	-20	-560		-43	-97	+21	-31	-351		-41	-46	+23	-	-
170	-13	-100	+3	-10	-666		-19	-123	+7	-22	-555		-22	-101	+11	-34	-347		-21	-48	+12	-	-
180	0	-102	0	-10	-658		0	-125	0	-23	-546		0	-103	0	-25	-339		0	-49	0	-	-
190	+13	-100	-3	-10	-646		+19	-123	-7	-22	-531		+22	-101	-11	-24	-325		+21	-48	-12	-	-
200	+26	-96	-6	-9	-631		+38	-118	-14	-20	-512		+43	-97	-21	-21	-307		+41	-46	-23	-	-
210	+38	-88	-8	-8	-612		+55	-108	-18	-17	-486		+63	-89	-28	-26	-281		+60	-42	-31	-	-
220	+49	-78	-9	-6	-590		+71	-96	-21	-14	-458		+80	-79	-32	-21	-253		+77	-38	-35	-	-
230	+58	-66	-9	-4	-567		+84	-80	-21	-9	-424		+96	-66	-32	-14	-217		+92	-32	-35	-	-
240	+66	-51	-8	-3	-542		+95	-63	-18	-6	-390		+108	-52	-28	-9	-182		+104	-25	-31	-	-
250	+71	-35	-6	-1	-517		+103	-43	-14	-3	-355		+118	-35	-21	-4	-143		+113	-17	-23	-	-
260	+75	-18	-3	0	-492		+108	-22	-7	-1	-320		+123	-18	-11	-1	-108		+118	-9	-12	-	-
270	+76	0	0	0	-470		+110	0	0	0	-288		+125	0	0	0	-76		+120	0	0	0	0
280	+75	+18	+3	0	-450		+108	+22	+7	-1	-262		+123	+18	+11	-1	-50		+118	+9	+12	-	-
290	+71	+35	+6	-1	-435		+103	+43	+14	-3	-241		+118	+35	+21	-4	-31		+113	+17	+23	-	-
300	+66	+51	+8	-3	-424		+95	+63	+18	-6	-228		+108	+52	+28	-9	-22		+104	+25	+31	-	-
310	+58	+66	+9	-4	-417		+84	+80	+21	-9	-222		+96	+66	+32	-14	-21		+92	+32	+35	-	-
320	+49	+78	+9	-6	-416		+71	+96	+21	-14	-224		+80	+79	+32	-21	-31		+77	+38	+35	-	-
330	+38	+88	+8	-8	-420		+55	+108	+18	-17	-234		+63	+89	+28	-26	-47		+60	+42	+31	-	-
340	+26	+96	+6	-9	-427		+38	+118	+14	-20	-248		+43	+97	+21	-31	-71		+41	+46	+23	-	-
350	+13	+100	+3	-10	-440		+19	+123	+7	-22	-271		+22	+101	+11	-24	-101		+21	+48	+12	-	-



0					+20					+40					+60							
0	+49	0	-39	+29	+235	0	-11	0	-35	+189	+421	0	-50	0	-23	+348	+557	0	-53	0	-10	+494
1	+48	-12	-38	-4		-17	-11	-11	-24	+162		-13	-49	-7	-22	+330		-7	-52	-3	-10	+485
1	+46	-23	-34	-33		-34	-10	-21	-31	+139		-25	-47	-14	-20	+315		-15	-50	-6	-9	+477
0	+42	-31	-29	-59		-50	-10	-28	-26	+121		-27	-43	-18	-17	+306		-22	-46	-8	-8	+473
7	+38	-35	-23	-78		-64	-8	-22	-21	+110		-47	-38	-21	-14	+301		-28	-41	-9	-6	+473
2	+32	-25	-16	-92		-77	-7	-22	-14	+105		-56	-32	-21	-9	+303		-33	-34	-9	-4	+477
4	+25	-21	-10	-101		-87	-6	-28	-9	+105		-63	-25	-18	-6	+309		-37	-27	-8	-3	+482
13	+17	-22	-5	-105		-94	-4	-21	-4	+112		-69	-17	-14	-3	+318		-40	-18	-6	-1	+492
18	+9	-12	-1	-103		-99	-2	-11	-1	+122		-72	-9	-7	-1	+322		-42	-9	-2	0	+503
20	0	0	0	-101		-100	0	0	0	+135		-73	0	0	0	+348		-43	0	0	0	+513
18	-9	+12	-1	-97		-99	+2	+11	-1	+148		-72	+9	+7	-1	+364		-42	+9	+2	0	+527
13	-17	+22	-5	-93		-94	+4	+21	-4	+162		-69	+17	+14	-2	+380		-40	+18	+6	-1	+540
4	-25	+21	-10	-89		-87	+6	+28	-9	+173		-62	+25	+18	-6	+395		-27	+27	+8	-2	+552
2	-22	+25	-16	-86		-77	+7	+22	-14	+183		-56	+32	+21	-9	+409		-22	+24	+9	-4	+563
7	-38	+35	-22	-84		-64	+8	+22	-21	+190		-47	+28	+21	-14	+419		-28	+41	+9	-6	+573
0	-42	+21	-29	-81		-50	+10	+28	-26	+197		-27	+42	+18	-17	+428		-22	+46	+8	-8	+581
1	-46	+22	-24	-79		-24	+10	+21	-21	+201		-25	+47	+14	-20	+427		-15	+50	+6	-9	+589
	-48	+12	-28	-76		-17	+11	+11	-24	+206		-13	+49	+7	-22	+442		-7	+52	+2	-10	+595
	-49	0	-29	-69		0	+11	0	-25	+211		0	+50	0	-22	+448		0	+52	0	-10	+600
1	-48	-12	-28	-58		+17	+11	-11	-24	+218		+13	+49	-7	-22	+454		+7	+52	-2	-10	+603
11	-46	-23	-24	-43		+24	+10	-21	-21	+227		+25	+47	-14	-20	+459		+15	+50	-6	-9	+607
60	-42	-21	-29	-23		+50	+10	-28	-26	+241		+27	+42	-18	-17	+466		+22	+46	-8	-8	+609
77	-28	-25	-22	0		+64	+8	-22	-21	+254		+47	+28	-21	-14	+471		+28	+41	-9	-6	+611
92	-22	-25	-16	+28		+77	+7	-22	-14	+273		+56	+22	-21	-9	+479		+23	+24	-9	-4	+611
104	-25	-21	-10	+57		+87	+6	-28	-9	+291		+62	+25	-18	-6	+485		+27	+27	-8	-2	+610
13	-17	-22	-5	+87		+94	+4	-21	-4	+308		+69	+17	-14	-2	+490		+40	+18	-6	-1	+608
18	-9	-12	-1	+115		+99	+2	-11	-1	+324		+72	+9	-7	-1	+494		+42	+9	-2	0	+605
20	0	0	0	+139		+100	0	0	0	+335		+72	0	0	0	+494		+42	0	0	0	+600
18	+9	+12	-1	+157		+99	-2	+11	-1	+342		+72	+9	+7	-1	+490		+42	-9	+2	0	+593
13	+17	+22	-5	+167		+94	-4	+21	-4	+342		+69	-17	+14	-2	+484		+40	-18	+6	-1	+584
4	+25	+21	-10	+169		+87	-6	+28	-9	+338		+63	-25	+18	-6	+471		+27	-27	+8	-2	+572
92	+22	+25	-16	+162		+77	-7	+22	-14	+323		+56	-22	+21	-9	+457		+22	-24	+9	-4	+561
77	+28	+25	-22	+146		+64	-8	+22	-21	+302		+47	-28	+21	-14	+437		+28	-41	+9	-6	+547
60	+42	+21	-29	+123		+50	-10	+28	-26	+277		+27	-42	+18	-17	+416		+22	-46	+8	-8	+533
4	+46	+23	-24	+95		+34	-10	+21	-21	+249		+25	-47	+14	-20	+393		+15	-50	+6	-9	+519
21	+48	+12	-28	+62		+17	-11	+11	-34	+218		+13	-49	+7	-22	+370		+7	-52	+2	-10	+505



II Formák

$\varphi = -60$

MAGYAR  
TUDOMÁNYOS AKADEMIA  
KÖNYVTÁRA



$\varphi = -60$	$X_t$	$X_0$	$X_t - X_0$	$Y_t$	$Y_0$	$Y_t - Y_0$
0		+201	-11		-86	+12
10		186	-15		-93	+7
20		167	-12		-96	+3
30		158	-15		-95	-2
40		147	-16		-91	-9
50		135	-15		-87	-14
60		126	-18		-80	-22
70		118	-21		-69	-32
80		114	-29		-62	-39
90		109	-31		-51	-51
100		106	-29		-40	-35
110		104	-29		-29	-25
120		102	-30		-16	-17
130		101	-28		-5	-9
140		103	-23		+7	-4
150		104	-15		+21	0
160		105	-4		+34	+3
170		110	+4		+49	0
180		115	+15		+62	-9
190		122	+22		+75	-20
200		133	+23		+88	-32
210		144	+22		+95	-36
220		157	+17		+101	-37
230		171	+11		+105	-32
240		186	+4		+104	-19
250		204	-4		+97	+1
260		216	-6		+88	+25
270		229	-9		+75	+48
280		240	-6		+58	+65
290		246	+4		+37	+71
300		250	+8		+16	+66
310		249	+10		-5	+59
320		245	+9		-25	+45
330		238	+6		-45	+35
340		227	0		-62	+26
350		214	-5		-75	+18



$Z_t$	$Z_0$	$Z_t - Z_0$
-489	+119	
-508	+118	
-527	+120	
-547	+119	
-565	+115	
-584	+114	
-601	+110	
-616	+103	
-630	+91	
-642	+67	
-652	+50	
-660	+29	
-667	+22	
-671	+21	
-673	+18	
-673	+46*	
-669	+30	
-662	+24	
-653	+14	
-640	+4	
-625	-8	
-607	-24	
-587	-37	
-565	-58	
-543	-63	
-520	-68	
-498	-63	
-480	-42	
-464	-12	
-452	+27	
-445	+65	
-441	+88	
-443	+102	
-449	+106	
-459	+109	
-474	+115	

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



II. Táblák.

$\varphi = -40$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$q = -40$	$X_t$	$X_0$	$X_t - X_0$	$X_0(X_t - X_0)$	$Y_t$	$Y_0$	$Y_t - Y_0$	$Y_0(Y_t - Y_0)$
0		253	-69	-17457		-89	-6	+534
10		243	-71	-17253		-93	-7	+651
20		235	-72	-16920		-94	-8	+752
30		228	-70	-15960		-89	-9	+801
40		222	-65	-14436		-82	-13	+1066
50		219	-60	-13140		-72	-17	+1224
60		219	-56	-12264		-62	-21	+1302
70		217	-50	-10850		-53	-24	+1272
80		221	-49	-10829		-43	-30	+1290
90		222	-43	-9546		-34	-32	+1088
100		225	-38	-8550		-24	-31	+744
110		227	-32	-7264		-17	-24	+408
120		229	-26	-5954		-10	-8	+80
130		231	-17	-3927		-2	+5	-10
140		232	-14	-3248		+6	+16	+96
150		232	-11	-2552		+15	+25	+375
160		233	-5	-1165		+26	+26	+676
170		233	+3	+699		+39	+23	+897
180		235	+11	+2585		+51	+12	+612
190		237	+17	+4029		+63	-2	-126
200		241	+19	+4579		+76	-18	-1368
210		246	+16	+3936		+87	-31	-2697
220		252	+10	+2520		+96	-40	-3840
230		261	+1	+261		+98	-40	-3920
240		269	-7	-1883		+100	-36	-3600
250		277	-15	-4155		+95	-22	-2090
260		285	-20	-5700		+85	+1	+85
270		292	-25	-7300		+72	+25	+1800
280		297	-26	-7722		+55	+41	+2255
290		299	-28	-8372		+35	+45	+1570
300		299	-32	-9568		+12	+41	+492
310		296	-35	-10260		-12	+32	-372
320		290	-40	-11600		-32	+18	-576
330		282	-47	-13254		-53	+10	-530
340		275	-57	-15675		-68	+7	-476
350		263	-63	-16569		-81	-4	+324
			-1066				-102	



$x - y_0$	$Z_t$	$Z_0$	$Z_t - Z_0$	$Z_0(Z_t - Z_0)$	$x_0 + y_0 - Z_0$
+534		-329	+71	-23359	+6436
+651		-357	+70	-24990	+8388
+752		-386	+69	-26634	+10466
+801		-413	+65	-26845	+11686
+1066		-439	+61	-26779	+13415
+1224		-461	+54	-24894	+12978
+1302		-480	+45	-21600	+10638
+1272		-498	+40	-19920	+10342
+1290		-512	+34	-17408	+7869
+1088		-524	+27	-14148	+5690
+744		-534	+15	-8010	+204
+408		-542	0	0	-6856
+80		-548	-18	+9864	-15738
-10		-551	-40	+22040	-25977
+96		-561	-24	+13464	-16616
+375		-555	-10	+5550	-7727
+676		-552	+12	+6624	-7113
+897		-545	+20	-10900	+12496
+612		-535	+34	-18190	+21387
-126		-519	+37	-19203	+23106
-1368		-500	+37	-18500	+21711
-2697		-474	+32	-15168	+16407
-3840		-449	+21	-9429	+8109
-3920		-417	+1	-417	-3242
-3600		-386	-18	+6948	-12431
-2090		-354	-34	+12036	-18281
+85		-322	-38	+12236	-17851
+1800		-294	-40	+11760	-17260
+2255		-272	-12	+3264	-8731
+1570		-254	+19	-4826	-1976
+492		-246	+51	-12546	+3470
-372		-243	+70	-17010	+6278
-576		-249	+81	-20169	+7993
-530		-261	+81	-21141	+7357
-476		-278	+76	-21128	+4977
+324		-303	+73	-22119	+5874
			+962		

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



MAGYAR  
UDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



-20	$X_t$	$X_0$	$X_t - X_0$	$X_0(X_t - X_0)$	$Y_t$	$Y_0$	$Y_t - Y_0$	$Y_0(Y_t - Y_0)$	
0		277	-68	-18836		-88	-18		+1584
10		274	-67	-18358		-89	-8		+712
20		271	-62	-16802		-84	-2		+168
30		272	-58	-15776		-78	+3		-234
40		273	-52	-14196		-68	+3		-204
50		277	-46	-12742		-56	+2		-112
60		282	-39	-10998		-46	+5		-230
70		289	-33	-9537		-33	-1		+33
80		296	-26	-7696		-24	-5		+120
90		303	-17	-5151		-17	-4		+68
100		310	-7	-2170		-10	-5		+50
110		317	-1	-317		-5	0		0
120		322	+8	+2576		0	+5		0
130		327	+13	+4251		+4	+10		+40
140		329	+16	+5264		+8	+22		+176
150		330	+16	+5280		+14	+30		+420
160		331	+14	+4634		+22	+33		+726
170		330	+14	+4620		+31	+29		+899
180		329	+13	+4277		+42	+17		+714
190		326	+13	+4238		+53	+3		+159
200		327	+8	+2616		+64	-12		-768
210		325	+5	+1625		+74	-27		-1998
220		323	+1	+323		+84	-39		-3276
230		323	-4	-1292		+88	-43		-3784
240		322	-6	-1932		+90	-41		-3690
250		321	-8	-2568		+85	-29		-2465
260		320	-12	-3840		+76	-12		-912
270		319	-20	-6380		+63	+8		+504
280		318	-29	-9222		+46	+21		+966
290		313	-33	-10329		+25	+26		+650
300		310	-36	-11160		+4	+24		+96
310		305	-38	-11590		-20	+20		-400
320		299	-42	-12258		-40	+3		-120
330		296	-51	-15096		-58	-10		+580
340		287	-56	-16072		-74	-15		+1110
350		282	-65	-18330		-83	-22		+1826
			-755				-49		



	$Z_t$	$Z_s$	$Z_t - Z_s$	$Z_s / (Z_t - Z_s)$	$X_{0.5} + Y_{0.5} - Z_s$
+1584		-154	-16		+2464 -19716
+712		-189	-23		+4347 -22093
+168		-220	-26		+5720 -22354
-234		-250	-34		+8500 -24510
-204		-275	-42		+11550 -25950
-112		-296	-40		+11840 -24694
-230		-311	-37		+11507 -22735
+33		-324	-33		+10692 -20799
+120		-331	-31		+10261 -17837
+68		-336	-33		+11088 -16171
+50		-339	-36		+12204 -14324
0		-342	-41		+14022 -14339
0		-343	-45		+15435 -12869
+40		-344	-45		+15480 -11189
+176		-347	-37		+12839 -7395
+420		-346	-18		+6228 -528
+726		-344	+9		-3096 +8456
+899		-339	+28		-9492 +15011
+714		-330	+43		-14190 +19181
+159		-315	+52		-16380 +20777
-768		-298	+51		-15198 +17646
-1998		-272	+38		-10336 +9963
-3276		-245	+18		-4410 +1457
-3784		-210	-7		+1470 -6546
-3690		-177	-28		+4956 -10578
-2465		-140	-47		+6580 -11613
-912		-107	-56		+5992 -10744
+504		-78	-58		+4524 -10264
+966		-55	-53		+2915 -11171
+650		-38	-39		+1482 -11151
+96		-33	-19		+627 -11691
-400		-34	-3		+132 -12122
-120		-45	+10		-450 -11928
+580		-64	+16		-1024 -13492
+1110		-90	+14		-1260 -13702
+1826		-121	0		0 -16504
			-550		

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



(II) Táblák

$\varphi = 0$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$\phi = 0^\circ$	$X_t$	$X_0$	$X_t - X_0$	$X_0(X_t - X_0)$	$Y_t$	$Y_0$	$Y_t - Y_0$	$Y_0(Y_t - Y_0)$
0		284	-2	-568				
10		288	-1	-288				
20		292	+1	+292				
30		299	+2	+598				
40		306	+4	+1224				
50		313	+7	+2191				
60		320	+10	+3200				
70		329	+12	+3948				
80		338	+15	+5070				
90		345	+21	+7245				
100		352	+24	+8448				
110		359	+23	+8257				
120		364	+22	+8008				
130		369	+19	+7011				
140		372	+10	+3720				
150		375	-2	-750				
160		374	-10	-3740				
170		374	-11	-4114				
180		372	-8	-2976				
190		368	-7	-2576				
200		364	-7	-2548				
210		357	-6	-2142				
220		350	-5	-1750				
230		343	+6	+2058				
240		336	+17	+5712				
250		327	+28	+9156				
260		318	+35	+11130				
270		311	+36	+11196				
280		304	+34	+10336				
290		297	+23	+6831				
300		292	+13	+3796				
310		287	+13	+3731				
320		284	+9	+2556				
330		281	+2	+562				
340		282	-6	-1692				
350		282	-5	-1410				
			+316					



$\frac{1}{2}$ )	$Z_t$	$Z_1$	$Z_t - Z_0$	$Z_0(Z_t - Z_0)$	$X_{0.5} + \frac{1}{2} Y_{0.5} - Z_{0.5}$
					+2638
					-370
					-2954
					-4494
					-3961
					-2206
					-654
					+694
					+2122
					+4709
					+6653
					+7576
					+7883
					+7108
					+3906
					-138
					-1930
					-822
					+1092
					+762
					-1199
					-3495
					-4732
					-1112
					+3031
					+11218
					+18127
					+20566
					+20253
					+15710
					+9754
					+5535
					+3380
					+3157
					+3450
					+4028

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



II Táblák

$\varphi = +20$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$\phi = +20^\circ$	$X_t$	$X_0$	$X_t - X_0$	$X_0(X_t - X_0)$	$Y_t$	$Y_0$	$Y_t - Y_0$	$Y_0(Y_t - Y_0)$	
0		268	+17	+4556		-77	0	0	
10		278	+20	+5560		-73	+7	-511	
20		285	+28	+7980		-64	+12	-768	
30		296	+30	+8880		-54	+16	-864	
40		304	+34	+10336		-39	+14	-546	
50		311	+39	+12129		-25	+15	-375	
60		320	+41	+13120		-12	+10	-120	
70		326	+46	+14996		-2	+8	-16	
80		332	+48	+15936		+7	+7	+49	
90		336	+42	+14112		+14	+6	+84	
100		340	+33	+11220		+19	+3	+57	
110		344	+24	+8256		+20	-9	-180	
120		348	+13	+4524		+22	-21	-462	
130		351	+1	+351		+19	-14	-266	
140		354	-11	-3894		+19	-18	-342	
150		356	-22	-7832		+20	-6	-120	
160		357	-32	-11424		+22	+9	+198	
170		356	-39	-13884		+25	+22	+550	
180		354	-42	-14868		+31	+21	+651	
190		350	-41	-14350		+37	+14	+518	
200		345	-36	-12420		+43	+3	+129	
210		336	-27	-9072		+50	-5	-250	
220		328	-13	-4264		+55	-8	-440	
230		317	+5	+1585		+57	-7	-399	
240		304	+26	+7904		+56	-3	-168	
250		292	+42	+12264		+54	-2	-108	
260		280	+53	+14840		+45	+1	+45	
270		270	+60	+12600		+32	+3	+96	
280		260	+61	+15860		+17	+2	+34	
290		254	+53	+13462		0	+5	0	
300		248	+43	+10664		-18	+1	-18	
310		245	+33	+8085		-35	+14	-490*	
320		246	+17	+4182		-51	-15	+765	
330		248	-21*	-5208*		-64	+1*	-61	
340		253	+9	+2277		-74	-19	+1406	
350		260	+12	+3120		-77	-9	+693	
			+546				+58		



$\gamma$	$Z_t$	$Z_s$	$Z_t - Z_s$	$Z_s / (Z_t - Z_s)$	$X_{65} + \gamma_{67} - Z_{65}$	
0		+210	-36		-7560	+12116
-511		+184	-45		-8280	+13229
-768		+160	-35		-5600	+12872
-864		+142	-19		-2698	+10714
-546		+130	-4		-520	+10310
-375		+124	+7		+868	+10886
-120		+122	+15		+1830	+11170
-16		+127	+19		+2413	+12577
+49		+135	+26		+3510	+12376
+84		+145	+28		+4060	+9968
+57		+155	+32		+4960	+6203
-180		+167	+30		+5010	+3066
-462		+174	+25		+4350	-288
-266		+182	+10		+1820	-1735
-342		+188	-9		-1692	-1860
-120		+192	-26		-4992	-2820
+198		+194	-34		-6596	-4632
+550		+198	-31		-6138	-7196
+651		+202	-16		-3232	-10985
+578		+208	0		0	-13822
+129		+218	+13		+2834	-15125
-250		+232	+16		+3712	-13034
-440		+246	+19		+4674	-9274
-399		+266	+14		+3724	-1528
-168		+286	+12		+3422	+4204
-108		+305	+15		+4575	+7581
+45		+323	+17		+5491	+9394
+96		+337	+18		+6066	+6620
+34		+347	+23		+7981	+7913
0		+349	+25		+8725	+4727
-18		+349	+27		+9423	+1220
-490*		+336	-23*		-7728*	+15323*
+765		+316	+31		+9796	-5849
-61		+294	-32*		-9408	+4129*
+1406		+268	0		0	+3683
+693		+238	-18		-4284	+8097
			+94			

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



(II) Táblák

$\varphi = +40$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$q = +40$	$X_t$	$X_0$	$(X_t - X_0)$	$X_0(X_t - X_0)$	$y_t$	$y_0$	$(y_t - y_0)$	$y_0(y_t - y_0)$	
0		235	-15	-3525		-69	+8	-552	
10		246	-13	-3198		-64	+15	-960	
20		256	-12	-3072		-54	+19	-1026	
30		267	-12	-3204		-42	+23	-966	
40		274	-10	-2740		-28	+25	-700	
50		279	-8	-2232		-10	+21	-210	
60		284	-8	-2272		-3	+26	-78	
70		287	-7	-2009		+8	+22	+176	
80		286	-3	-858		+16	+17	+272	
90		287	-3	-861		+23	+7	-161	
100		286	-1	-286		+28	-12	-336	
110		287	-2	-574		+30	-32	-960	
120		286	-3	-858		+29	-47	-1363	
130		285	-4	-1140		+28	-56	-1568	
140		286	-5	-1430		+28	-54	-1512	
150		286	-7	-2002		+26	-35	-910	
160		284	-12	-3408		+28	-16	-446	
170		284	-21	-5964		+28	+6	+168	
180		281	-30	-8430		+31	+20	+620	
190		278	-34	-9452		+34	+25	+850	
200		272	-31	-8432		+36	+28	+1008	
210		263	-23	-6049		+40	+30	+1200	
220		256	-17	-4352		+42	+33	+1386	
230		245	-10	-2450		+42	+34	+1428	
240		232	-3	-696		+41	+32	+1312	
250		223	+1	+223		+34	+30	+1020	
260		212	+1	+212		+26	+21	+546	
270		203	+1	+203		+15	+5	+75	
280		196	+1	+196		+2	-8	-16	
290		191	-6	-1146		-12	-21	+252	
300		190	-17	-3230		-27	-28	+756	
310		191	-24	-4584		-42	-28	+1176	
320		196	-30	-5880		-54	-25	+1350	
330		203	-31	-6293		-64	-20	+1280	
340		213	-25	-5325		-70	-11	+770	
350		224	-19	-4256		-70	-3	+210	
			-444				+53		



$Y_t$	$Z_t$	$Z_0$	$(Z_t - Z_0)$	$Z_0(Z_t - Z_0)$	$X_0 \xi + Y_0 \eta - Z_0 \zeta$
-552		+381	-6	-2286	-1791
-960		+364	-3	-1092	-3066
-1026		+349	0	0	-4098
-966		+339	+9	+3051	-7221
-700		+332	+24	+7968	-11408
-210		+332	+34	+11288	-13730
-78		+335	+45	+15075	-17425
+176		+341	+56	+19096	-20929
+272		+352	+58	+20416	-21002
-161		+364	+62	+22568	-23590
-336		+376	+63	+23688	-24310
-960		+389	+54	+21006	-22540
-1363		+399	+38	+15162	-17383
-1568		+410	+8	+3280	-5982
-1512		+422	-31	-13082	+10140
-910		+423	-59	-24957	+22045
-446		+429	-81	-34749	+30895
+168		+432	-88	-38016	+32220
+620		+437	-86	-37582	+29772
+850		+442	-75	-33150	+24544
+1008		+447	-59	-26373	+18949
+1200		+455	-40	-18200	+13351
+1386		+462	-18	-8316	+5350
+1428		+472	+3	+1416	-2438
+1312		+481	+26	+12506	-11890
+1020		+489	+52	+25428	-24185
+546		+496	+71	+35216	-34458
+75		+500	+76	+38000	-37722
-16		+500	+86	+43000	-42820
+252		+497	+70	+34790	-35684
+756		+489	+45	+22005	-24479
+1176		+478	+23	+10994	-14402
+1350		+462	-5	-2310	-2220
+1280		+443	-12	-5316	+303
+770		+423	-12	-5076	+521
+210		+402	-12	-4824	+778



II Formula

$\varphi = +60$

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA



$q = +60$	$X_t$	$X_s$	$X_t - X_s$	$y_t$	$y_s$	$y_t - y_s$
0	1	171	-31		-58	+7
10		183	-33		-57	+15
20		190	-30		-42	+22
30		200	-35		-32	+30
40		205	-38		-23	+37
50		208	-41		-10	+39
60		210	-46		0	+38
70		207	-48		+10	+32
80		206	-52		+19	+21
90		202	-50		+26	+5
100		196	-43		+31	-14
110		192	-38		+32	-28
120		188	-29		+34	-41
130		184	-21		+36	-52
140		181	-13		+35	-53
150		177	-4		+34	-44
160		176	+1		+34	-30
170		173	+4		+35	-13
180		169	+4		+34	+5
190		165	0		+33	+21
200		162	-5		+34	+25
210		154	-13		+32	+28
220		147	-22		+33	+39
230		142	-35		+28	+41
240		134	-45		+24	+37
250		127	-54		+18	+26
260		120	-62		+7	+14
270		116	-72		-2	-5
280		114	-74		-13	-13
290		112	-65		-24	-28
300		116	-60		-34	-38
310		122	-58		-46	-37
320		127	-48		-53	-34
330		136	-42		-58	-28
340		148	-37		-62	-17
350		159	-32		-61	-6



$Z_+$   $Z_0$   $Z_+ - Z_0$

+529 -63

+521 -63

+512 -49

+508 -22

+506 -16

+509 0

+511 +12

+519 +15

+527 +19

+532 +19

+543 +17

+552 +10

+561 -1

+569 -16

+576 -27

+582 -70

+587 -92

+591 -95

+595 -94

+597 -79

+601 -60

+604 -41

+608 -27

+609 -5

+611 +21

+611 +27

+611 +18

+616 -26\*

+607 +12<sup>dw.</sup>

+601 -9

+592 -4

+585 -24

+574 -40

+552 -50

+551 -52

+526 -57.

MAGYAR  
TUDOMÁNYOS AKADÉMIA  
KÖNYVTÁRA